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EXAMINER

JUSKA, CHERYL ANN

ART UNIT PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/864,478  
Filing Date: May 23, 2001  
Appellant(s): MILLER ET AL.

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Daniel Alexander  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed November 17, 2005, appealing from the Office action mailed December 1, 2004.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Claims 12, 14-16, 22, 23, 26, and 28-30 stand rejected under 35 USC 103(a) as being unpatentable over US 4,522,857 issued to Higgins and US 5,540,968 issued to Higgins in view of EP 048 986 issued to Porter et al. and in further view of EP 309 816 issued to Turner et al.

Higgins '857 discloses a carpet tile with a stabilizing material embedded in an adhesive layer (title). Specifically, Higgins '857 teaches a tufted or bonded carpet comprising a primary carpet base 12 bonded to a foam cushion layer 14 via an adhesive layer 16 (abstract and col. 1, lines 26-33 and Figure 1). The adhesive layer includes a reinforcing glass scrim 18 embedded therein (col. 1, lines 26-33 and Figure 1). The adhesive layer may be a thermoplastic (i.e., hot melt) adhesive layer present in an amount ranging from 10-70 oz/yd<sup>2</sup>, preferably about 50 oz/yd<sup>2</sup> (col. 1, lines 48-52). The cushion layer may be a polyurethane foam and range from 0.1" to 1.0" in thickness and 10-60 oz/yd<sup>2</sup> (col. 2, lines 1-6). Higgins '857 also teaches the presence of a latex pre-coat applied to the backloops of yarns tufted into the primary backing (col. 1, lines 37-38). With respect to claim 14, wherein the cushion is limited to an unfilled polyurethane, it is noted that Higgins '857 is silent about the use of fillers.

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Higgins '968 discloses a cushioned back carpet tile with a stabilizing nonwoven backing (title). The carpet comprises a tufted primary backing having a latex pre-coat thereon (col. 3, lines 53-58). Additionally, a hot melt adhesive layer may contain a fiberglass scrim reinforcement layer (col. 4, lines 42-44). A foam cushion backing layer is bonded to the primary backing via the hot melt layer. Furthermore, a nonwoven felt layer of polyester and polypropylene is attached to said foam cushion layer in order to stabilize the carpet (abstract). The foam cushion layer may be a polyurethane foam having a density ranging from 12-20 lbs/ft<sup>3</sup> (col. 6, lines 28-39). The foam layer may also have a layer of reinforcement at least partially embedded therein (col. 6, lines 21-27).

Thus, the Higgins patents teach the presently claimed invention with the exception of (a) the claimed face weight of "less than or equal to about 15 oz/yd<sup>2</sup>," (b) the polyurethane foam weight of "about 2.72-8.24 oz/yd<sup>2</sup>" and (c) the polyurethane foam density of "less than about 10 lbs/ft<sup>3</sup>."

Regarding the first exception, both Higgins patents are silent about the face weight of the primary carpet. However, the presently claimed face weight of less than about 15 oz/yd<sup>2</sup> is well known in the art. For example, Porter teaches a polyurethane foam backed carpet having a nylon pile face weight of 14 oz/yd<sup>2</sup> (page 11, lines 22-30). Thus, it would have been obvious to one to choose a face weight as claimed in order to produce an inexpensive and light weight, yet durable and aesthetically pleasing carpet.

With respect to the foam weight, it is asserted the claimed weight of "about 8.24 oz/yd<sup>2</sup>" is met by the Higgins '857 teaching of 10 oz/yd<sup>2</sup>. In the alternative, it is argued that said claim is still obvious over the prior art since cushion weights within the presently claimed range are

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known in the art. Specifically, Turner teaches a polyurethane foam cushion layer for a carpet may vary widely from 5-500 oz/yd<sup>2</sup> (page 5, lines 35-39). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to decrease the amount of foam present, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 205 USPQ 215. In this case, a decrease in the amount of foam cushion present, would result in an inexpensive and lighter weight carpet which is easier to handle and install.

With respect to the claimed foam density of “less than about 10 lbs/ft<sup>3</sup>,” Higgins ‘968 teaches a foam density of 12-20 lbs/ft<sup>3</sup> (col. 6, lines 28-39). Again, it is argued that 12 lbs/ft<sup>3</sup> reads on the claimed limitation of “less than *about* 10 lbs/ft<sup>3</sup>. Additionally, Porter teaches polyurethane foam cushion carpet backs having a density of *less than* 13 lbs/ft<sup>3</sup> (page 5, lines 32-34). It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 205 USPQ 215. Therefore, it would have been obvious to one skilled in the art to employ a foam having the density of “less than about 10 lbs/ft<sup>3</sup>” or of “about 6 lbs/ft<sup>3</sup>” in order to produce a carpet having reduced weight and cost.

Regarding claims 26-29, the Higgins references fail to teach yarn denier and non-heatset yarn as presently claimed. However, these features are well-known in the art of carpet. Applicant is hereby given Official Notice of this fact. The examiner notes that the facts asserted to be common and well-known are capable of instant and unquestionable demonstration as being well-known. To adequately traverse such a finding, applicant must specifically point out the supposed errors in the examiner’s action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. Thus, it would have been

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obvious to one skilled in the art to select the claimed yarn denier and non-heatset structure of the yarn in order to produce a commercially acceptable carpet having the desired softness and resiliency. Therefore, claims 12, 14-16, 22, 23, and 26-30 are rejected as being obvious over the cited prior art.

#### **(10) Response to Argument**

Applicant's arguments filed in the Appeal Brief have been fully considered but they are not persuasive.

Applicant asserts the prior art does not teach or suggest a carpet tile having a polyurethane foam cushion layer of the claimed low basis weight and density in combination with the claimed low face weight (Brief, paragraph spanning pages 5-6). Applicant asserts, "To the contrary, the evidence of record indicates that in constructing a carpet tile, higher densities and mass per unit area levels have previously been considered necessary." (Brief, paragraph spanning pages 5-6). The examiner respectfully disagrees. It is argued that the claimed foam weight and density and the claimed face weight are obvious variants of known prior art carpet tiles. Additionally, it is asserted that applicant has failed to show sufficient evidence to the contrary.

Applicant asserts the differences between carpet tiles and broadloom carpet in arguing that one skilled in the art would not have thought to decrease the foam density and weight and the face weight for various reasons (Brief, page 6, 1<sup>st</sup> paragraph – page 8, 2<sup>nd</sup> paragraph). First, it is argued that applicant has not clearly established that the accepted wisdom of the art is as argued. There is nothing on record establishing the doubts of one skilled in the art with respect

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to lowering face weight in combination with foam density and weight. Applicant's arguments are not sufficient to show the accepted wisdom in the art, especially when the prior art teaches low-end ranges that approximate applicant's range.

Additionally, even if applicant can establish the accepted wisdom of the art is contrary to the present invention, applicant has not shown unexpected results obtained from proceeding contrary to the accepted wisdom in the art (Brief, page 9, 2<sup>nd</sup> paragraph). MPEP 2145 states that proceeding contrary to accepted wisdom in the art is evidence of nonobviousness. In particular, *In re Hedges*, 228 USPQ 685 held that the "PTO acted erroneously in determining that claimed process for sulfonating diphenol sulfone at its molten state would be obvious from prior art, *since* references all suggest that lower temperatures are preferable, and *none suggests that reaction may be advantageously produced at molten state*, and *since data produced by inventor*, and not challenged by PTO, *show significant advantages of claimed invention*, so that, on balance, inventor proceeded contrary to accepted wisdom, which is strong evidence of unobviousness." [Emphasis added.] Additionally, *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 USPQ 303, states "On the entire record and in view of all the references, each in its entirety, it is clear that a person of ordinary skill confronted with a PTFE tape breakage problem would have either slowed the rate of stretching or increased the temperature to decrease the crystallinity. Dr. Gore did neither. He proceeded contrary to the accepted wisdom of the prior art by dramatically increasing the rate and length of stretch *and* retaining crystallinity. That fact is strong evidence of nonobviousness."

The differences between the *Hedges* and *Gore* situations and the present invention are (1) the present prior art of record suggests the claimed face weight and foam density and basis



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weights and (2) both the *Hedges* and *Gore* cases showed advantageous results were achieved when proceeding contrary to the accepted wisdom. Proceeding contrary to the accepted wisdom in the art is not sufficient to show nonobviousness—especially when the prior art has a suggestion thereto. However, the successful results achieved *are what is contrary* to the accepted wisdom. One skilled in the art might expect reducing the face weight and foam density and basis weight would produce a cheap carpet tile having lesser quality. Although applicant has not clearly established as such, this might be the accepted wisdom in the art. But, *proceeding contrary* to the accepted wisdom *to achieve advantageous or unexpected results* (i.e., an inexpensive, but quality carpet tile having sufficient stability and durability for commercial applications) is evidence of nonobviousness. Applicant has not shown either the accepted wisdom of the art nor that advantageous or unexpected results have been achieved by proceeding contrary to said wisdom in the art.

Regarding applicant's arguments that changes to a dimensionally stable carpet tile are viewed with skepticism (Brief, page 7, 3<sup>rd</sup> paragraph), it is argued that the layers of a carpet tile in question (i.e., face and cushion back) are not necessarily the layers instrumental to dimensional stability. Specifically, the face is intended to be decorative and aesthetically pleasing, while appearing durable to wear. The main function of a polyurethane foam layer is to provide a resilient cushion backing for comfort upon use. Hence, neither layer contributes significantly to obtaining a dimensional stable carpet tile and changes thereto need not be devastating to the stability of said carpet tile as asserted by applicant (Brief, page 8, 1<sup>st</sup> paragraph). In carpet tiles, this function is largely obtained by the use of a stabilizing or reinforcement layer such as a fiber glass scrim. Note Higgins '857 col. 1, lines 48-55 and

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Higgins '968 col. 3, line 64 - col. 4, line 7. In at least independent claim 12, applicant is not claiming any reinforcement layer or any properties reflecting the dimensional stability of the carpet tile. Thus, applicant's arguments are not necessarily commensurate in scope with the claims.

With respect to applicant's assertion of the "preponderance of evidence" that outweighs a conclusion of obviousness (Brief, page 8, 4<sup>th</sup> paragraph – paragraph spanning pages 9-10), it is asserted, as explained above, that applicant has not provided said "preponderance of evidence" outweighing said conclusion of obviousness. The prior art suggests face weights and foam densities and basis weights as claimed. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 205 USPQ 215. One skilled in the art readily understands the relationships of material weights and densities to costs and performance of carpet tiles. For example, a lower face weight produces a less expensive carpet tile of lighter weight. One also understands that too low a face weight can produce an unattractive carpet that does not wear well. Hence, one skilled in the art readily understands how to balance these variables with the desired quality of said carpet tile.

Regarding applicant's assertion that Turner teaches foam basis weights for carpet tiles are preferred in the range of 10-200 oz/yd<sup>2</sup> and not 5-500 oz/yd<sup>2</sup> (Brief, page 10, 1<sup>st</sup> paragraph), it is agreed that Turner teaches such. However, as discussed above one skilled in the art readily understands how to balance the variables of weights and densities with the desired quality of said carpet tile. Applicant also asserts that the fact that two different entities identify a lower limit of 10 oz/yd<sup>2</sup> for a polyurethane foam cushion layer is evidence of non-obviousness (Brief,

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paragraph spanning pages 10-11). In response, it is reiterated that the teachings to 10 oz/yd<sup>2</sup> read on the limitation of “about 8.24 oz/yd<sup>2</sup>.”

Regarding applicant’s assertion that the prior art does not suggest the combination of low face weight with low cushion weight and density (Brief, page 11, 1<sup>st</sup> paragraph – page 12, 1<sup>st</sup> paragraph), it is agreed that the prior art teaches these features alone rather than in combination. However, contrary to applicant’s assertion, the teachings of Porter are not sufficient evidence that substantially higher cushion weights are “required” with low face weights. The fact that Porter exemplifies a foam weight of about 40 oz/yd<sup>2</sup> with a low face weight is not equivalent to a teaching of a requirement of higher cushion weights or to a teaching away from the claimed invention. A reference is not limited to its working examples, but rather is available for its teachings to one skilled in the art. Additionally, applicant has not provided any evidence to the contrary of the suggested combination.

Applicant also traverses the examiner’s reliance upon *In re Boesch* 205 USPQ 215, and *In re Peterson*, 65 USPQ2d 1379 (Brief, page 12, 2<sup>nd</sup> paragraph – page 13, 1<sup>st</sup> paragraph). In response, as explained above, the examiner does not agree that the prior art teaches away from the claimed invention. Rather, it is believed that one would have a reasonable expectation of success since the claimed value is so close to the disclosed value that the same desirable properties would be expected in either case. *Titanium Metals Corp. of America v. Banner*, 227 USPQ 773 held “A *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties.”

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Applicant also traverses the rejection is based upon individual differences of the claimed invention and the prior art rather than based upon the invention as a whole (Brief, page 13, 1<sup>st</sup> paragraph – paragraph spanning pages 13-14). In response, it is reiterated that the prior art does not teach away from the claimed invention as a whole. Also, the combined teachings of the references do suggest to one of ordinary skill in the art the invention as a whole. Applicant has not shown sufficient evidence that the whole invention (i.e., combination of low face weight and low cushion weight and density) is not obvious over the cited prior art. Said teachings of the prior art suggest to one skilled in the art to employ a low face weight and low cushion weight and density. While one *might* expect this combination to produce a cheap carpet tile with minimal quality, applicant is not limiting the quality or performance of the claimed invention.

Regarding claims 28 and 29, applicant traverses the rejection by asserting the examiner ignores the fact that the invention as claimed would be understood by those skilled in the art to be “a weak product with the backing being visible at the numerous interstitial voids and with the face yarns being prone to substantial shrinkage upon application of heat” (Brief, paragraph spanning pages 14-15 and paragraph spanning pages 16-17). In response, the examiner contends that said fact is not established with respect to the presently claimed invention. Applicant’s carpet tiles are not limiting with respect to face yarns, yarn denier, pile height or density, pile type (i.e., cut or loop), face composition, etc. Applicant merely claims a primary carpet made of non-heatset single yarn and/or a yarn having a denier of about 1000-1400. [Note said non-heatset single yarn or the claimed denier is not necessarily limited to the face yarn. The claim merely limits the primary carpet, which includes face yarns and a primary backing, to being the non-heatset single yarn of the specified denier.] As such, one skilled in the art could select any

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known face yarn of a composition that inherently has low shrinkage upon heat exposure. Or, one might desire high shrinkage in order to produce a textured short pile. Additionally, one skilled in the art can readily select a relatively short pile height and/or adjust the stitch density in order to avoid producing "numerous interstitial voids." Thus, applicant's argument is found unpersuasive.

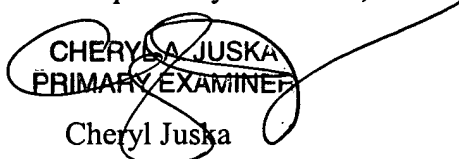
Applicant also asserts that motivation to select said non-heatset singles yarn of the claimed denier is improper (Brief, page 15, 1<sup>st</sup> paragraph). In response, it is first noted that applicant has not traversed the Official Notice given with respect to said yarn. Secondly, the motivation to employ said yarn is found in the fact that said yarns are conventional in art. This is evidence that said yarns are successful in carpeting. As such, one would be motivated to select said yarn for its successful properties as a face yarn (e.g., hand and/or texture of face, resiliency of face, and appearance). Therefore, applicant's arguments are found unpersuasive.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

  
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PRIMARY EXAMINER  
Cheryl Juska

Conferees:

Terrel Morris

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